

Section 4.2 Graphs of Rational Functions

Objective: In this lesson you learned how to sketch the graphs of rational functions.

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

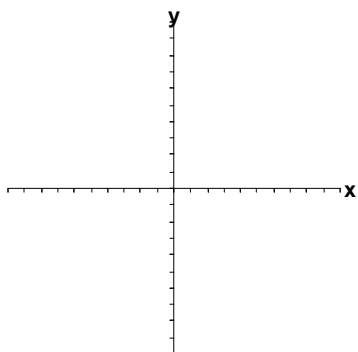
Slant (or oblique) asymptote**I. Analyzing Graphs of Rational Functions** (Pages 333–335)

To graph the rational function $f(x) = N(x)/D(x)$, where $N(x)$ and $D(x)$ are polynomials with no common factors, . . .

What you should learn

How to analyze and sketch graphs of rational functions

Example 1: Sketch the graph of $f(x) = \frac{3x}{x+4}$.



II. Slant Asymptotes (Page 336)

To find the equation of a slant asymptote, . . .

What you should learn
How to sketch graphs of rational functions that have slant asymptotes

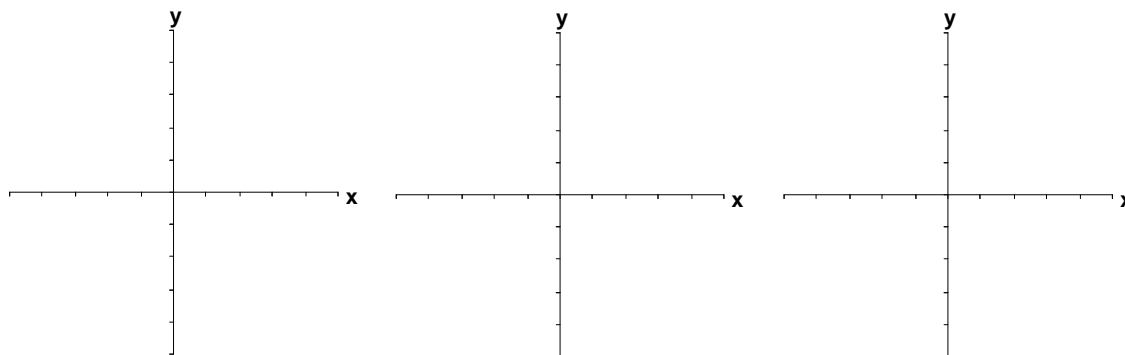
Example 2: Decide whether each of the following rational functions has a slant asymptote. If so, find the equation of the slant asymptote.

$$(a) f(x) = \frac{x^3 - 1}{x^2 + 3x + 5} \quad (b) f(x) = \frac{3x^3 + 2}{2x - 5}$$

III. Applications of Graphs of Rational Functions
(Pages 327–328)

Describe a real-life situation in which a graph of a rational function would be helpful when solving a problem.

What you should learn
How to use graphs of rational functions to model and solve real-life problems

**Homework Assignment**

Page(s)

Exercises